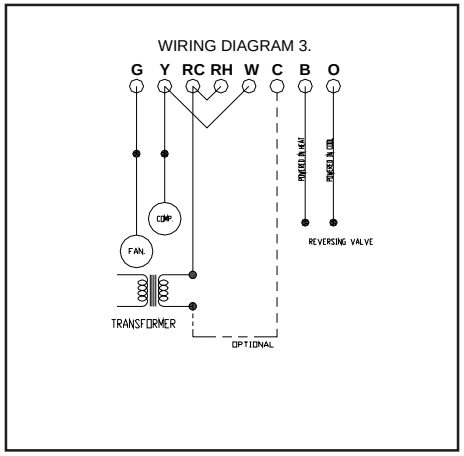
Diagram 3: Single Stage Heat Pump

1: Connect the transformer hot wire to the RC terminal.
2: Connect jumper between RC and RH terminals
3: Connect compressor to the Y terminal.
4: Connect jumper wire between the Y and W terminals.
5: Connect Fan to G terminal
6: Connect reversing valve to O terminals if reversing valve is activated in the cool mode (most common), or to the B terminal if reversing valve is to be activated in the heating model.
7: Connect transformer common wire to C terminal (optional) if you wish thermostat to be powered from the transformer. Without this connection, thermostat will be powered from AAA batteries.



Installing Thermostat onto base:

Once the wires have been connected to the base, and the options selected, it is time to install thermostat onto the base. Close the battery compartment door. Do not install batteries yet. Align the thermostat with base, and push together. Open battery door and install batteries.

Operation:

1: Select Heat or Cool with Heat/Off/Cool Switch:
2: The display will indicate current room temperature, and display a flame if the heat mode has been selected or a snow flake if the cool mode has been selected.
3: Press up or down arrow to set desired temperature. “SET TEMP” will appear in the display to indicate you are setting the temperature.
4: Whenever the thermostat is activating the heating or cooling system, the word “ON” will appear in the display.
5: Whenever you change modes (from heat to cool or cool to heat), the thermostat will remember the last temperature set in that mode. The heat setting and cooling setting do not have to be the same.

TE8001 Installation & Operation Manual

The TE8001 is an electronic non-programmable thermostat. It is designed to work with most standard single stage heating and/or single stage cooling systems. These include single or dual transformer 24 VAC gas, oil or electric heating, and 24 VAC cooling systems. This thermostat is also compatible with single stage heat pumps.
The TE8001 is designed to operate entirely on two AAA alkaline batteries, or 24 volts from the heating/cooling system’s transformer, using the batteries only for memory back up.

Installation:

Important: Read the entire instructions before beginning installation. Failure to follow these instructions could result in personal injury and/or property damage.

Location:

The thermostat should be mounted 4 to 5 feet above the floor in a location where it will be exposed to average room temperature. The thermostat must not be mounted where it will be effected by a source of heat such as lamps, sunlight, fireplaces, pipes, registers, etc..., or sources of cold such as windows, doors, drafts, etc... The thermostat must not be mounted on an exterior wall, behind a door, or in an alcove. Such locations will inhibit the thermostat’s ability to accurately control room temperature

Removing existing thermostat:

Caution:

Power must be disconnected before removing existing wiring connections from thermostat to prevent possible electrical shock and/or equipment damage. All wiring must conform to local and national electrical codes and regulations.
1: Remove existing wiring by writing down each of the wire’s colors and the designation of the terminals that they are connected to. If more than one wire has the same color, tag the wire with some form of identification.
2: Remove wires from thermostat.

Mounting:

This thermostat may be mounted directly to the wall, by using the mounting screws supplied. Remove base from front section, by opening battery door, remove batteries. Pull case apart. To mount directly to a wall use holes located in top and bottom of case.
Pull wires through hole in center of case.

⚠WARNING Do not depend upon the thermostat as the sole means of disconnecting power when installing or servicing the product it is controlling. Always disconnect power at the main circuit breaker as described above. Failure to do so may result in fatal electric shock.

TPI Corporation, Johnson City, TN 37602
Tel: 423-477-4131, Fax:423-477-0545

FORM: 8063
Rev: -

Wiring:

The chart is a cross reference for terminal functionality. No application will require connections to all terminals. If connecting to a single transformer system, only the RC or RH terminals will be used.
The C terminal is only used if the thermostat is powered from the system transformer.
The B & O terminals will only be used for a single stage heat pump application.

Terminal	Description
G	Fan
Y	Compressor
RC	Cool Transformer
RH	Heat Transformer
W	Heat
C	Transformer Common
B	Heat Reversing Valve
O	Cool Reversing Valve

Option Jumpers:

The option jumpers are located to the right edge of the circuit board, directly above the white relay. These jumpers are set at the time of installation. The following table lists the 4 options. The factory settings are in bold. The options include:

Option	Jumper On	Jumper Off
C	Celsius	**Fahrenheit**
1F	**Closer Differential**	Wider Differential
HBY	**No Heat Delay**	5Min. Delay
CBY	No Cool Delay	**5Min. Delay**

Fan Option:

An additional option jumper (J1) is located between the two switches, near the bottom edge of the circuit board.. This selects fan operation for single transformer systems: The factory setting has the jumper on the middle and lower two pins (TH). This activates the fan whenever the thermostat turns the cooling on. For an electric heat system, place the jumper on the middle and upper pins (H/C), which will allow the fan to turn on whenever the thermostats turns on the cooling or the heating.

Wiring Diagrams:

The following wiring diagrams illustrate how to connect the system wires to the TE1001 thermostat depending on application:

Diagram 1: Four Wire Heat/Cool system.

1: Connect the transformer hot wire to the RH terminal.
2: Connect jumper between the RH and RC terminals.
3: Connect Heat to the W terminal.
4: Connect compressor to Y terminal.
5: Connect Fan to G terminal
6: Connect transformer common to C terminal (optional) if you wish thermostat to be powered from the transformer. Without this connection, thermostat will be powered from AAA batteries.

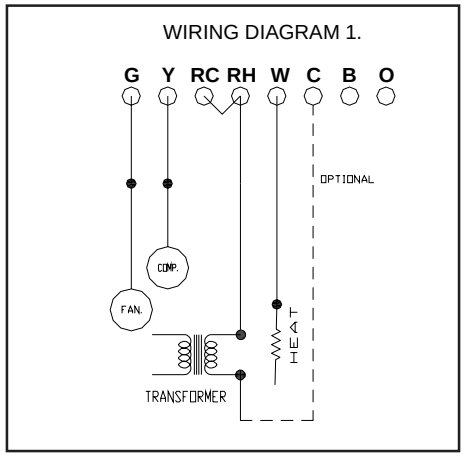
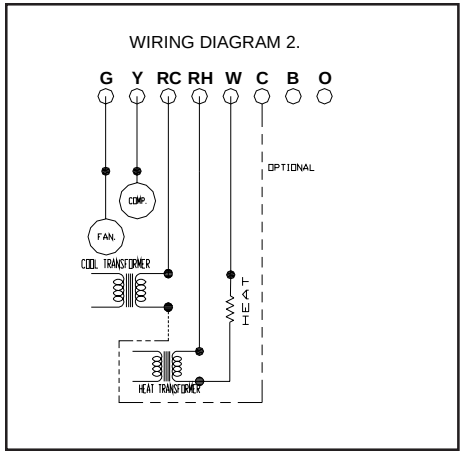


Diagram 2: Five Wire Heat/Cool system.

1: Connect the Cooling transformer hot wire to the RC terminal.
2: Connect the Heating Transformer hot wire to the RH terminal.
3: Connect Heat to the W terminal.
4: Connect compressor to Y terminal.
5: Connect Fan to G terminal
6: Connect cooling transformer common wire to C terminal (optional) if you wish thermostat to be powered from the transformer. Without this connection, thermostat will be powered from AAA batteries.



Low Battery Indicator:
Whenever the batteries start to get low, a low battery indicator '▬' will appear in the display. Change batteries as soon as possible once the indicator appears.

LCD Pattern:

All Segments View

LCD Pattern Description:
a. 2 Large digits for room temperature readout.
b. 4 small bars for 0.2/0.4/0.6/0.8 degree indication.
c. "SET TEMP" indicator for control temperature setting indication.
d. "ON" indicator for output control status indication.
e. " ▬ " symbol for low battery indicate.
f. " 🔥 " symbol for Heat mode.
g. " ❄ " symbol for Cool mode.

WARRANTY

Products manufactured by TPI Corporation are warranted to the original consumer to be free from defects in material and workmanship for twelve (12) months from the original date of purchase. The TPI warranty does not cover products modified outside our factory, damage or failure caused by acts of God, abuse, misuse, connected to or placed on other than rated voltage, abnormal usage, faulty installation, failure to follow suggested maintenance procedures enclosed with the product, improper maintenance or any repairs other than those provided by an authorized TPI Corporation service center.

There are no obligations or liabilities on the part of the corporation for consequential damages arising out of, or in connection with, the use or performance of the product, or other indirect damages with respect to loss of property, revenues, or profit, or costs of removal, installation or reinstallation.

All implied warranties with respect to TPI products, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to twelve (12) months from original date of purchase, except those products or parts of products which are warranted for longer periods. On such products or parts of products all implied warranties for merchantability and fitness are limited to the duration of the extended warranty period thereon.

Some states do no allow the exclusion or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts. The above exclusions or limitations may not apply to you.

During the warranty period, TPI Corporation will, at its sole option, repair or replace any defective parts or products returned, freight prepaid, to the TPI Corporation factory or such other location as TPI Corporation may designate. Returned products must be packaged carefully and TPI Corporation shall not be responsible for damage in transit. When returning parts, the owner must provide the model number of the product and nature of difficulty being experienced. This warranty does not obligate TPI Corporation to bear the cost of labor in replacing any assembly, unit or component part thereof, nor does the company assume any liability for secondary charges, expenses for installing or removal, freight or damages. There will be charges rendered for product repairs made after out warranty period has expired. Proof of purchase, including date, must accompany request for in-warranty service. In any event, TPI Corporation's maximum liability shall not in any case exceed the list price for the product claimed to be defective. This warranty gives to you specific legal rights and you may have other rights, which may vary, from state to state. For the name of you nearest authorized TPI Corporation service center, please write to TPI Corporation, P.O. Box 4973, Johnson City, Tennessee, 37602.

In addition to the Limited Warranty stated above covering general products, TPI Corporation extends this warranty on the following listed products, which are warranted to the original consumer from the original date of purchase for the total time periods indicated herein below:

Heating Products

1. Elements in Baseboards	10 years
2. All Other Heating Products	1 year
3. Thermostats and Controls	2 years

Manual For TE8001 Thermostat

TPI Corporation
PO Box 4973Johnson City, TN 37602
Tel: 423-477-4131, Fax:423-477-0545
www.tpicorp.com

LOW VOLTAGE REED SWITCH THERMOSTAT INSTALLATION

1) REMOVE COVER OF THERMOSTAT FROM BASE AS SHOWN IN FIGURE (1).
2) DISCONNECT THE POWER SOURCE.
3) LOCATE IN AN AREA WITH GOOD AIR CIRCULATION (NO OUTSIDE WALL).
4) INSTALL THE THERMOSTAT APPROXIMATELY 5 FEET ABOVE FLOOR LEVEL.
5) USE ELECTRICAL WIRING APPROVED BY APPLICABLE CODES.
6) FEED WIRES THROUGH RECTANGULAR SLOTS AS SHOWN IN FIGURE (2).
7) CONNECT THE WIRES TO TERMINAL SCREWS AS SHOWN IN FIGURE (3) OR (4), ACCORDING TO APPLICATION.
8) MAKE SURE WIRING DOES NOT INTERFERE WITH THERMOSTATS OPERATION.
9) REPLACE THE COVER.

ADJUSTABLE HEAT ANTICIPATOR
24 VOLT MODELS ONLY

1) ADJUST THE ANTICIPATOR TO THE MAXIMUM CURRENT DRAW OF THE HEATING SYSTEM. IF THIS INFORMATION IS NOT AVAILABLE, CHECK THE CIRCUIT WITH AN AMP METER.
2) FOR LONGER "ON" TIMES, MOVE THE ANTICIPATOR CLOCKWISE.
3) FOR SHORTER "ON" TIMES, MOVE THE ANTICIPATOR COUNTERCLOCKWISE.
4) FOR MILLIVOLT OPERATION, MOVE THE ANTICIPATOR TO THE MV SETTING.

WARNING

If this product is used to replace a device containing mercury, the purchaser or consumer must ensure that the mercury is properly managed to comply with state or federal regulations. The mercury must not become part of solid waste or waste water. Additional guidance may be obtained from the manufacturer of the product being removed or by calling the Director of Environmental Services.

OUTSIDE TENNESSEE: 1-800-251-7828
INSIDE TENNESSEE: 1-423-477-4131

FIGURE 1

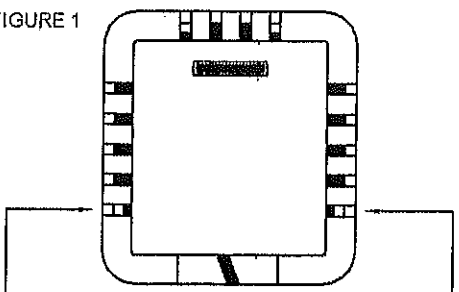


FIGURE 2

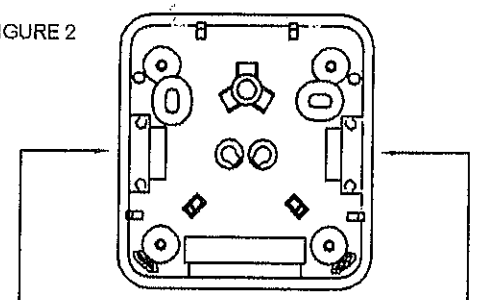
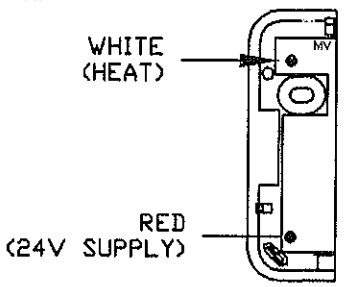
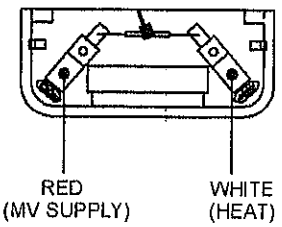


FIGURE 3



24 VOLT/MILLIVOLT

FIGURE 4



MILLIVOLT ONLY

UT Thermostats Installation Instructions

Installation Instructions:
Please read all the instructions carefully before starting. Leave this instruction sheet near the thermostat when you are finished.

Specifications:
For use with self-powered 250-750 millivolt generating systems and 2 wire (UT1001, Heating Only), or 3 wire and 6 wire (UT3001, Cooling Only and UT8001, Heat/Cool) electric, gas or oil systems equipped with 24 VAC controls.

Electrical Rating: 24-30 VAC (or 250-750mV)
Heat Anticipator: 0.1A to 1.0A (Adjustable)
Cool Anticipator: 0 to 1A (Fixed)

Selecting Thermostat Location:
For accurate temperature control and comfort, selecting the proper location is very important.
If this is a new installation, the guidelines listed below should be followed. When replacing an old thermostat install the new thermostat in the same location unless these guidelines suggest otherwise.
1: Locate the thermostat on an inside wall of a frequently occupied area (ie: family room) about 4-5 feet above the floor.
2: Do not install the thermostat where there are unusual sources of "heat", such as direct sunlight, or near a radiator, duct vent, lamp, or fireplace.
3: Do not install the thermostat where there are unusual "cooling" sources , such as an outside wall, drafts from doors, windows, stairways, or duct vents.
4: Do not install the thermostat where the air circulation is poor, such as in a corner, alcove or behind a door.

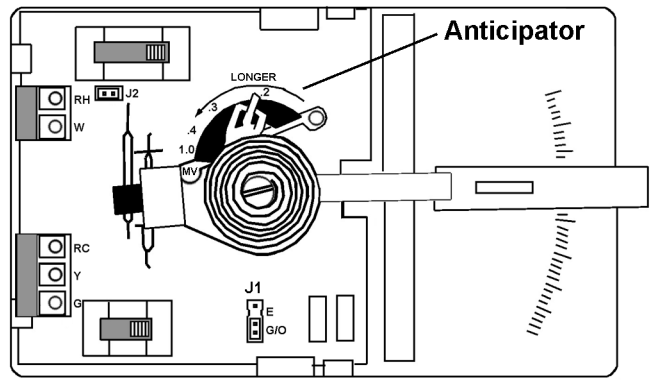
Removing Old Thermostat:
1: Shut off electricity to your heating and/or cooling system by removing the associated fuse or switching the circuit breaker off.
2: Remove the cover of the old thermostat. If you do not see the system wires, then you will have to remove another section of the thermostat. This may require the use of a screwdriver.
3: Observe the terminal markings of each wire. Label each wire with tape indicating the appropriated terminal markings to allow easy installation of the UT thermostat.
4: After you have labeled the existing wires, remove the wires from the terminals.
5: Remove the old thermostat base from the wall.

Installing the UT thermostat:
1: Hold the UT thermostat in one hand. Carefully remove cover from the thermostat base by pulling upward gently. Remove any shipping material present.
2: Position thermostat base on wall and carefully feed existing wires through opening. The UT can be position horizontally or vertically. If to be installed in the horizontal position, the adjustment lever must extend out the right side of the thermostat. If installed in the vertical position the lever must extend out the bottom of the thermsotat.
3: After you have finished locating the UT thermostat, you can mark the placement of the two screw holes for mounting. Set aside thermostat base.
4: If you are mounting the thermostat on plasterboard or another type of soft material, use plastic anchors. Use a 3/16" drill to make two holes where the mounting holes have been marked. Insert anchors into holes.
5: Feed the wires back through the base, then mount to the wall with supplied screws.
5: Connect the wires to their associated marked terminals. (See Chart if old and new terminals do not match exactly)
7: Check all connections so that adjacent wires are not touching.
8: Replace cover onto base by snapping it into place.
9: Make sure the system switch is in the OFF position until you are ready to check your wiring.

Old Thermostat	New Label	Description
M, 4, RH, R5, or 5	RH or R	Transformer Hot for Heat.*
V, or RC	RC or R	Transformer Hot for Cool.*
H, W, or 4	W	Heating Control (valve, relay, etc.)
Y, or Y6	Y	Cooling Control (valve, relay, etc.)
F or G	G	Fan Control. (See internal fan option)
* For separate RH and RC wires, you must remove the factory installed J2 jumper.		

Internal Fan Option (UT8001 only)
For typical gas or oil heating systems, place the J1 jumper on the G/O pins to allow natural system delay in fan operation during the heat mode.
If the heating system requires the fan to come on immediately with the heat (ie: electric heating systems), then place the J1 Jumper on teh E pins.
G/O – Fan turned on by heating system.
E – Fan turned on by thermostat in heat mode.

Setting the Heat Anticipator: (UT1001 & UT8001 models)
To help provide accurate control of furnace heat cycles, you must adjust the anticipator setting of the UT thermostat to match the current rating of the system control device. For Millivolt operation the heating anticipator setting must be place over the MV.



This setting can be found by looking at the setting used on the previous thermostat. If you are unable to find it, the information can be found in the owner's manual for the heating system. You can also find the information printed on the control device at the furnace. The control device is normally a gas valve, relay or pilot generator located behind the furnace cover.
If the current rating is still unavailable, connect an AC amp meter between the RH and W terminals on the thermostat. Let the system operate through the amp meter for at least one minute before taking the reading. The reading can then be used as the setting for the anticipator.

Check the wiring:
CAUTION DO NOT jump across the gas valve or relay to test the thermostat. This will destroy the thermostat and void the warranty.

Heating Only Model: (UT1001)
1: Turn on power to the heating system.
2: Adjust the temperature setting on the thermostat to 6º to 8º F above the room temperature. The heating system should turn on. The fan may take a few minutes to turn on depending on the delay built into the furnace.
5: Adjust the temperature setting of the thermostat 6º to 8º F below the room temperature. The heating system should turn off. The fan may have a delay before it turns off.

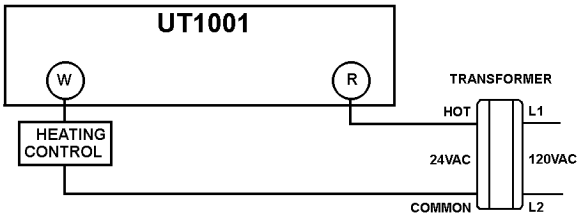
Cooling Only Model: (UT3001)
1: Turn on power to the Air conditioning system.
2: Place the Cool/Off switch to the Cool position.
3: Adjust the temperature setting on the thermostat to 6º to 8º F below the room temperature. The A/C system should turn on. There may be a short delay (typically 20 seconds) before the fan will turn on.
4: Adjust the temperature setting of the thermostat 6º to 8º F above the room temperature. The A/C system should turn off. The fan may have a delay before it turns off.

Heating & Cooling Model: (UT8001)
1: Turn on power to the heating/cooling system.
2: Place Heat/Off/Cool switch to the Heat position.
3: Adjust the temperature setting on the thermostat to 6º to 8º F above the room temperature. The heating system should turn on. The fan may take a few minutes to turn on depending on the delay built into the furnace.
4: Adjust the temperature setting of the thermostat 6º to 8º F below the room temperature. The heating system should turn off. The fan may have a delay before it turns off.

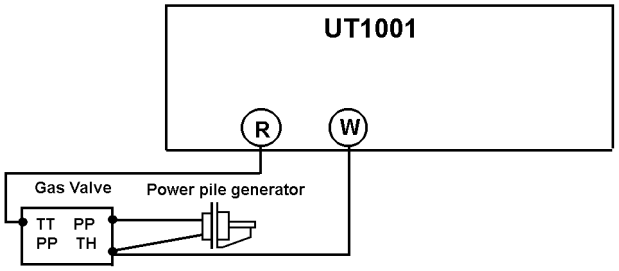
Caution: To avoid damage to the air conditioner, do not operate if the outside temperature is below 50 degrees. Please refer to the recommendations of the air conditioner's manufacturer.
5: Place the Heat/Off/Cool switch to the Cool position.
6: Adjust the temperature setting on the thermostat to 6º to 8º F below the room temperature. The A/C system should turn on. There may be a short delay (typically 20 seconds) before the fan will turn on.
7: Adjust the temperature setting of the thermostat 6º to 8º F above the room temperature. The A/C system should turn off. The fan may have a delay before it turns off.

Wiring Diagrams:

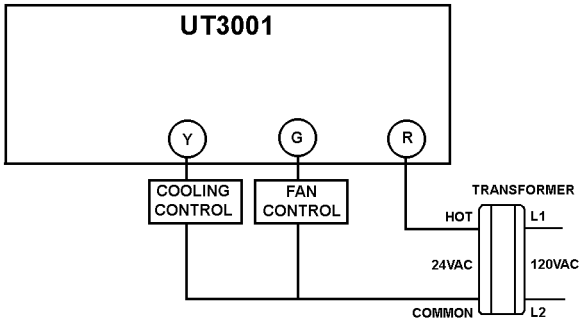
Typically 2 wire Heating Only



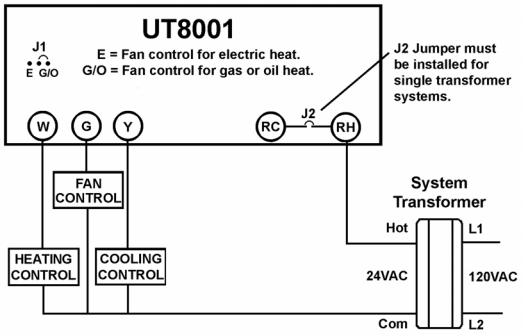
Typical 250-750 Millivolt System



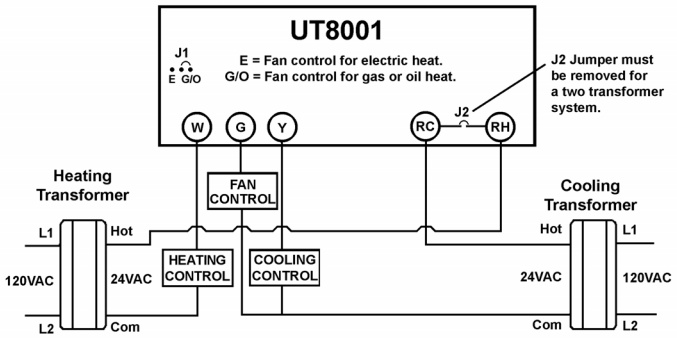
Typical 3 wire Cooling System



Typical 4 wire Heat/Cool System



Typical Two Transfomer System



REED SWITCH THERMOSTAT

INSTALLATION INSTRUCTIONS

COLUMBUS ELECTRIC
a division of TPI Corporation
Johnson City, TN

DESCRIPTION:
The UT5001 Reed Switch Thermostat is a versatile low voltage control utilizing a hermetically sealed (dust proof) reed switch operated by a magnet attached to a coiled bimetal. This design provides snap action operation making precise leveling of the thermostat during installation unnecessary. This thermostat has a standard temperature range of 50 - 90^{O}F.

SPECIFICATIONS:
Electrical Rating: 30 VAC maximum
Heat anticipator: fixed
Cool anticipator: fixed
Differential Heat: 1^{O}F
Differential Cool: 1.5^{O}F
System Switch: none
Fan Switch: none
Dimensions: 5.00" x 3.27" x 1.50"

INSTALLATION INSTRUCTIONS:
1. Determine the location where the thermostat is to be mounted. It should be installed about 54" above floor level where there is good air circulation. Avoid heat sources such as lamps, direct sunlight, fireplaces or walls containing air conditioning and heating ducts. Do not install where anything can obstruct free air flow such as drapes or doors.

2. Disconnect the power supply to the air conditioning and heating system.

3. Gently remove the cover of the thermostat from the base by pulling at the sides away from the base. Remove any additional packing.

4. Feed electrical wires from the system through the two holes above the screw terminals. Wiring must not interfere with the operation of the thermostat. Use electrical material approved by applicable codes.

5. Connect the wires to the proper terminals.

6. Install the thermostat on the wall with the mounting screws provided.

7. Move the temperature adjusting lever back and forth to insure bimetal is free from restictions.

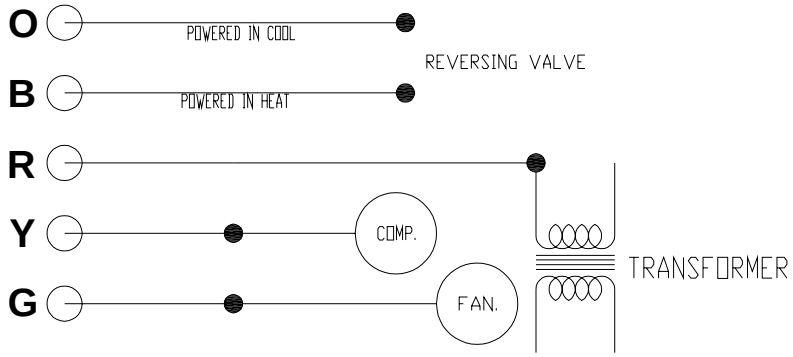
8. Replace the cover onto the base.

9. With power restored, move the manual switch to the desired position.

10. This thermostat has been electronically calibrated by highly qualifed technicians at the factory. No adjustment is necessary.

OPERATION:
1. Set the temperature adjusting lever to the desired temperature.

DIAGRAMS:



Rev.-
Form 8065

IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

REED SWITCH THERMOSTAT

INSTALLATION INSTRUCTIONS

COLUMBUS ELECTRIC
a division of TPI Corporation
Johnson City, TN

DESCRIPTION:
The UT6001 Reed Switch Thermostat is a versatile low voltage control utilizing a hermetically sealed (dust proof) reed switch operated by a magnet attached to a coiled bimetal. This design provides snap action operation making precise leveling of the thermostat during installation unnecessary. This thermostat has a standard temperature range of 50 - 90^{O}F.

SPECIFICATIONS:

Electrical Rating: 30 VAC maximum
Heat anticipator: fixed
Cool anticipator: fixed
Differential Heat: 1^{O}F
Differential Cool: 1.5^{O}F
System Switch: none
Fan Switch: none
Dimensions: 5.00" x 3.27" x 1.50"

INSTALLATION INSTRUCTIONS:

1. Determine the location where the thermostat is to be mounted. It should be installed about 54" above floor level where there is good air circulation. Avoid heat sources such as lamps, direct sunlight, fireplaces or walls containing air conditioning and heating ducts. Do not install where anything can obstruct free air flow such as drapes or doors.

2. Disconnect the power supply to the air conditioning and heating system.

3. Gently remove the cover of the thermostat from the base by pulling at the sides away from the base. Remove any additional packing.

4. Feed electrical wires from the system through the two holes above the screw terminals. Wiring must not interfere with the operation of the thermostat. Use electrical material approved by applicable codes.

5. Connect the wires to the proper terminals.

6. Install the thermostat on the wall with the mounting screws provided.

7. Move the temperature adjusting lever back and forth to insure bimetal is free from restictions.

8. Replace the cover onto the base.

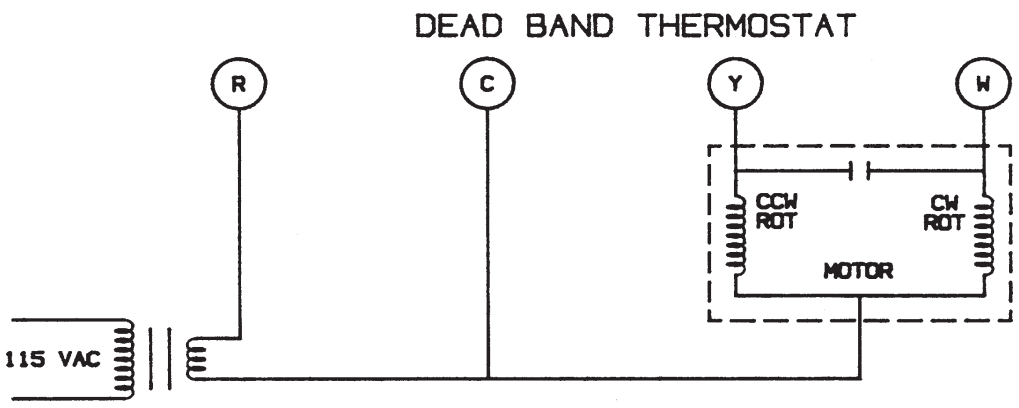
9. With power restored, move the manual switch to the desired position.

10. This thermostat has been electronically calibrated by highly qualifed technicians at the factory. No adjustment is necessary.

OPERATION:

1. Set the temperature adjusting lever to the desired temperature.

DIAGRAMS:



Rev.-
Form 8064

IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

REED SWITCH THERMOSTAT

INSTALLATION INSTRUCTIONS

COLUMBUS ELECTRIC
a division of TPI Corporation
Johnson City, TN

DESCRIPTION:
The UT9001 Reed Switch Thermostat is a versatile millivolt control utilizing a hermetically sealed (dust proof) reed switch operated by a magnet attached to a coiled bimetal. This design provides snap action operation making precise leveling of the thermostat during installation unnecessary. This thermostat has a standard temperature range of 50 - 90^{O}F.

SPECIFICATIONS:
Electrical Rating: 250 - 750 millivolt
Differential Heat: 1^{O}F
System Switch: none
Fan Switch: none
Dimensions: 5.00" x 3.27" x 1.50"

INSTALLATION INSTRUCTIONS:
1. Determine the location where the thermostat is to be mounted. It should be installed about 54" above floor level where there is good air circulation. Avoid heat sources such as lamps, direct sunlight, fireplaces or walls containing air conditioning and heating ducts. Do not install where anything can obstruct free air flow such as drapes or doors.

2. Disconnect the power supply to the air conditioning and heating system.

3. Gently remove the cover of the thermostat from the base by pulling at the sides away from the base. Remove any additional packing.

4. Feed electrical wires from the system through the two holes above the screw terminals. Wiring must not interfere with the operation of the thermostat. Use electrical material approved by applicable codes.

5. Connect the wires to the proper terminals.

6. Install the thermostat on the wall with the mounting screws provided.

7. Move the temperature adjusting lever back and forth to insure bimetal is free from restictions.

8. Replace the cover onto the base.

9. With power restored, move the manual switch to the desired position.

10. This thermostat has been electronically calibrated by highly qualifed technicians at the factory. No adjustment is necessary.

OPERATION:
1. Set the temperature adjusting lever to the desired temperature.

Rev.-
Form 8068

IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

COLUMBUS ELECTRIC

INSTALLATION & INSTRUCTION SHEET
LINE VOLTAGE THERMOSTAT - ET SERIES

DESCRIPTION

The Columbus Electric Wall Line Voltage Thermostat is suitable for direct connection with any resistance heating elements and unit heaters.

This thermostat has a snap action switch operated by a bimetal actuator and is available in single pole, double pole with positive off, two stage heat, cooling only and heat or cool models. Other options include factory or field installed locking kits for top and for bottom setting and 6" wire leads.

WARNING

IF THIS PRODUCT IS USED TO REPLACE A DEVICE CONTAINING MERCURY, THE PURCHASER OR CONSUMER MUST ENSURE THAT THE MERCURY IS PROPERLY MANAGED TO COMPLY WITH STATE OR FEDERAL REGULATIONS. THE MERCURY MUST NOT BECOME PART OF SOLID WASTE OR WASTE WATER. ADDITIONAL GUIDANCE MAY BE OBTAINED FROM THE MANUFACTURER OF THE PRODUCT BEING REMOVED, OR BY CALLING COLUMBUS ELECTRIC MANUFACTURING COMPANY MATERIALS MANAGER.

1-800-251-7828

SPECIFICATIONS

ELECTRICAL RATING

22 AMPS @ 125/277 VAC
3/4 HP @ 125 VAC
1 1/2 HP @ 250/277 VAC

DIFFERENTIAL

HEAT APPROXIMATELY.....2°F
COOLING APPROXIMATELY....4°F
HEAT ANTICIPATOR MODEL...1/2°F

TEMPERATURE RANGE

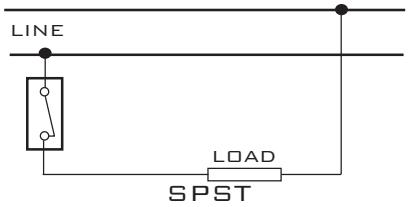
(STANDARD MODELS)
SETTING RANGE.....50°F TO 90°
HEATING OR COOLING.50°F TO 90°
ATTIC FAN CONTROL...90°F TO 135°

APPROVALS

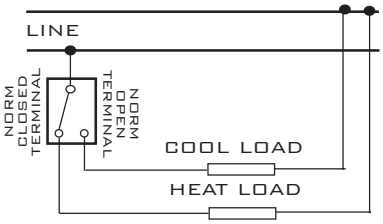
U.L. APPROVED
C.S.A. CERTIFIED

DIMENSIONS

4 3/4 X 2 3/4 X 2 3/4
H W D



SPST
HEATING OR COOLING



SPDT
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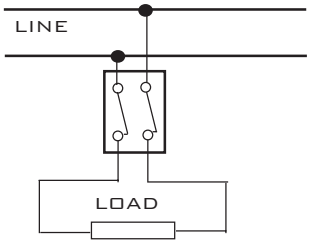
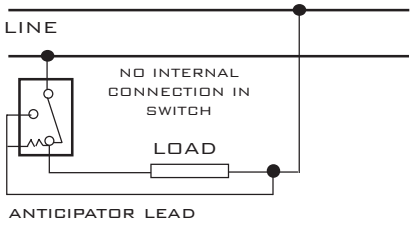
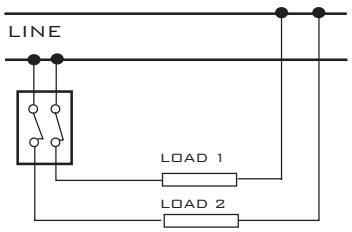


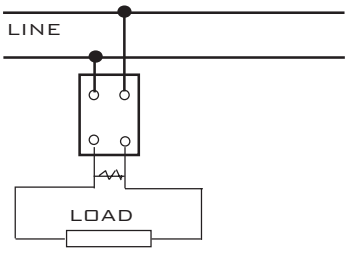
DPST HEATING



SPDT WITH
ANTICIPATION HEATING



TWO STAGE
HEATING & COOLING



DPST WITH ANTICIPATION
HEATING

8001
REV. G

INSTALLATION AND OPERATION MANUAL

EPET SERIES EXPLOSION PROOF THERMOSTATS

The Columbus Electric EPET Series thermostat is designed to control heating only, cooling only, heating and cooling or ventilation systems in oil refineries, grain elevators, munitions plants, hospital operating rooms and other hazardous locations.

The switching mechanism is enclosed in a 1/2” thick cast aluminum case which is dust proof and dust resistant. A reliable sensing element provides accurate response to temperature change and does not require leveling during installation.

The casing is tapped top and bottom for 3/4” conduit. A 1/2” adapter is included.

SPECIFICATIONS

Electrical Ratings: 22 Amp @ 125 - 277 VAC
3/4 HP @ 125VAC
1 1/2 HP @ 250 - 277 VAC

Dimensions: 5.62” x 6.37” x 4.43”

Approvals: UL and CSA
Class I Groups C & D
Class II Groups E, F & G

Differential : Heat- 2°F / Cool- 4°F

Temperature adjustment range: 50-90°F

INSTALLATION

ALL WIRING MUST COMPLY WITH NFPA-70 (NEC), LOCAL AND STATE CODES.

Locate the thermostat approximately five feet (5’) above the floor in a location that will best sense the average temperature of the area to be controled. Do not mount the thermostat adjacent to water pipes, in drafty areas, or other locations that would adversely affect the operation of the thermostat.

1) Remove the thermastat cover assembly from the base by removing the four corner screws. Set the cover assembly aside. **CAUTION: Marring of the mating surfaces of the enclosure could destroy the integrity of the seal causing unsafe conditions during thermostat operation.**
2) Mount the thermostat base on the surface selected. See Fig. 1 for dimensions.
3) The base is tapped for 3/4” conduit; a 1/2” conduit adapter and a 3/4” plug is provided. Two threaded openings are provided for wiring. Unused openings must be properly plugged with the plug provided prior to applying power to the unit.
4) Connect the conduit to the mounted base and pull the required wires into the base.
5) Connections are to be made to the switch terminals on the rear of the cover assembly. See Fig. 2. The cover assembly can then be attached to the base using the four mounting screws. **TIGHTEN TO A MINIMUM OF 40 INCH POUNDS.**
6) The installer must seal each conduit run within 18” of the thermostat enclosure. This seal must be a suitable, listed hazardous location fitting.

FORM: 8069
REV. -

DIAGRAMS

FIG. 1

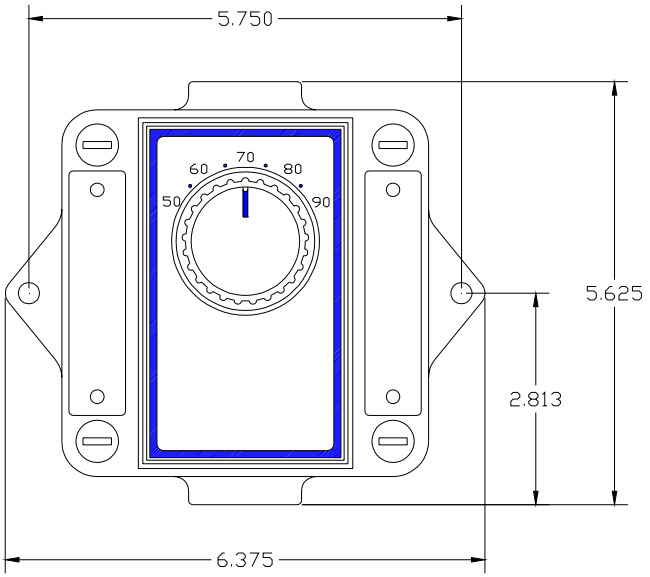
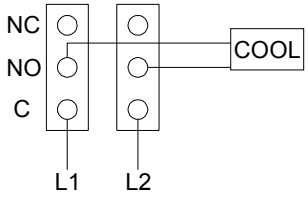
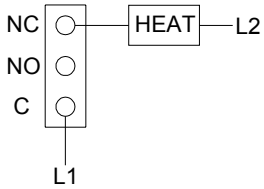
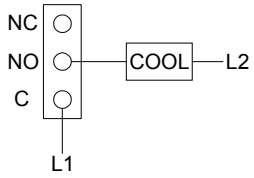


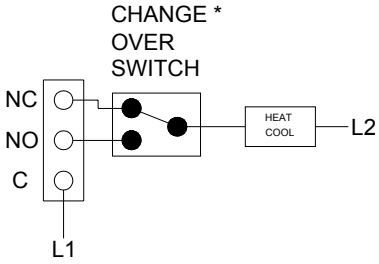
FIG. 2

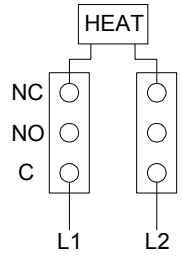
TYPICAL WIRING DIAGRAMS

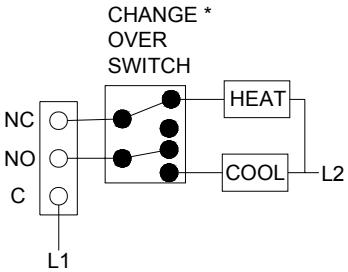












* TO BE PROVIDED BY OTHERS

TW155 / TW255
HTW155 / HTW255

TPI CORPORATION
PO BOX 4973
JOHNSON CITY, TN 37602

INSTALLATION INSTRUCTIONS

APPLICATION

The TW155 and TW255 thermostats are intended for use in wash down and mildly corrosive atmospheres for control of heating or cooling equipment.

The TW155 and TW255 are designed for use as operating or regulating controls only. Where control failure could result in personal injury or loss of property, an approved backup temperature limit control or an advisory alarm system should be used to warn of control failure.

MODEL	DESCRIPTION	OPERATION
TW155	HEAT or COOL SPDT	Opens N.C. circuit on temp. rise/ Closes N.O. circuit on temp. rise
TW255	HEAT or COOL DPDT	Opens two N.C. circuits on temp. rise/ Closes two N.O. circuits on temp. rise

Models HTW155 and HTW255 are the same as the above models except they have a limited temperature adjustment range.

DESCRIPTION

The TW series thermostats utilize a two piece molded plastic enclosure with all exposed metal hardware being stainless steel. the thermostat, adjusting knob and sensing coil are attached to the enclosure cover, allowing the box to be mounted and the wiring to be connected with out damaging the control. Wiring will be at the bottom of the enclosure.

ELECTRICAL RATINGS

22 AMP @ 125/250/277 Vac
3/4 HP @ 125 Vac
1 1/2 HP @ 250/277 Vac

** CAUTION **

Installation must be performed by an experienced, qualified service person
Always disconnect power supply before performing any work.
Wire nut or otherwise insulate any unused conductors.
All wiring must conform to state and local codes.

SAFETY INFORMATION

1. Disconnect all power before installing or servicing.
2. Be certain that the electrical load that is to be controled does not exceed the thermostat rating.
3. This thermostat is intended for permanent installation and must be installed in accordance with the National Electric Code (NEC) and all state and local codes.
4. Use copper conductors only.
5. This thermostat is rated for wash down applications, and is not to be used in potentially explosive or flammable atmospheres.
6. The TW155 and TW255 thermostats are designed to prevent the entry of dust and water inside the enclosure. If any part of this assembly is cracked or broken do not install, use or operate as this could result in personal injury and/or property damage.

INSTALLATION

1. Locate the thermostat 4 to 6 FT. above the floor, where it will be exposed to an average temperature of the controlled space. Do not mount near windows, doors or direct sunlight.
2. Remove the thermostat cover. Position the box with the wiring hole oriented as desired. Fasten the box to the wall with 4 screws through the mounting holes.
3. The thermostat may be installed using conduit, flexible cable or other code approved wiring methods. All fittings and materials used in the installation should be approved for the application and should be installed in accordance with their instructions. **CAUTION** The conduit hub, cord seal or other device used for connection should be UL Listed and marked NEMA 4X. The conduit hub is to be installed into the conduit before installing into the enclosure.
4. A drip loop should be used to prevent water or other fluids from entering the thermostat housing. The cable or conduit connections to the enclosure must be water and dust tight. Even though this thermostat is sealed, an improper wiring seal could cause water or dust to enter the enclosure, resulting in possible personal injury, property damage and also voids the warranty.
5. Complete the wiring by attaching the thermostat leads in accordance to the applicable wiring diagram using wire nuts (not provided). A green ground wire is provided to attach the line and equipment ground to the thermostat assembly. After the connections are made, all wires should be pushed back into the box.
6. The thermostat cover should now be attached to the box using the four plastic screws provided. Do not use any other screws. The cover assembly uses a resilient gasket and must be tightened securely to compress the gasket and provide a watertight seal. Do not over tighten.

9958 Rev-B
1-5275

OPERATION

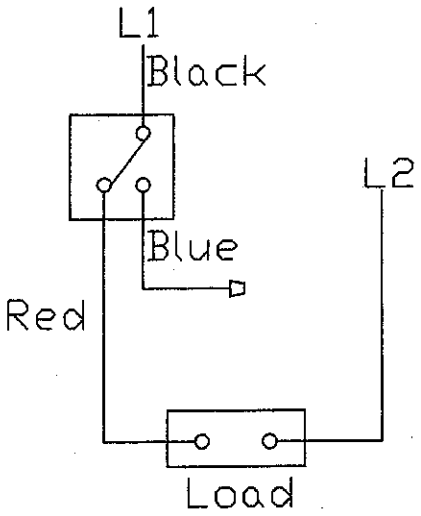
After installation and wiring, check the operation in the following manner.

1. Adjust the thermostat set point to about 10 degrees below room temperature.
2. Restore power.
3. Slowly adjust the thermostat to raise the set point. When the control setting reaches the temperature of the room, the heater should start.

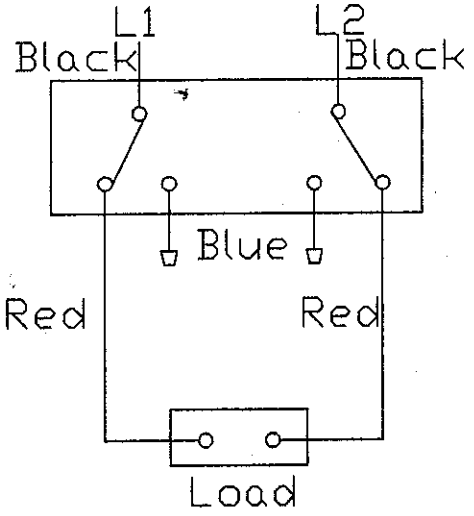
Since the thermostat may be affected by the installers hands, allow the necessary amount of time after handling before performing the operation check.

The TW Series thermostats are factory calibrated and require no field adjustments. Changing the calibration will void the warranty. The coiled sensor should be kept clean of dirt and other foreign material. Do not bend or damage the coiled sensor as this will affect the operation of the unit.

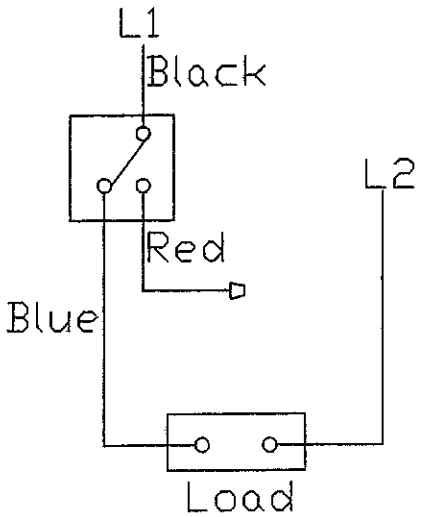
(H)TW155 Heating



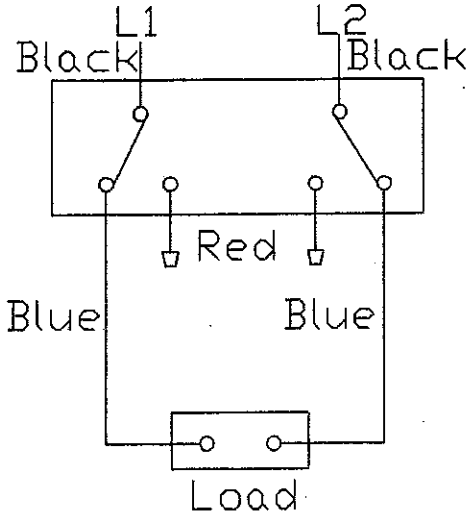
(H)TW255 Heating

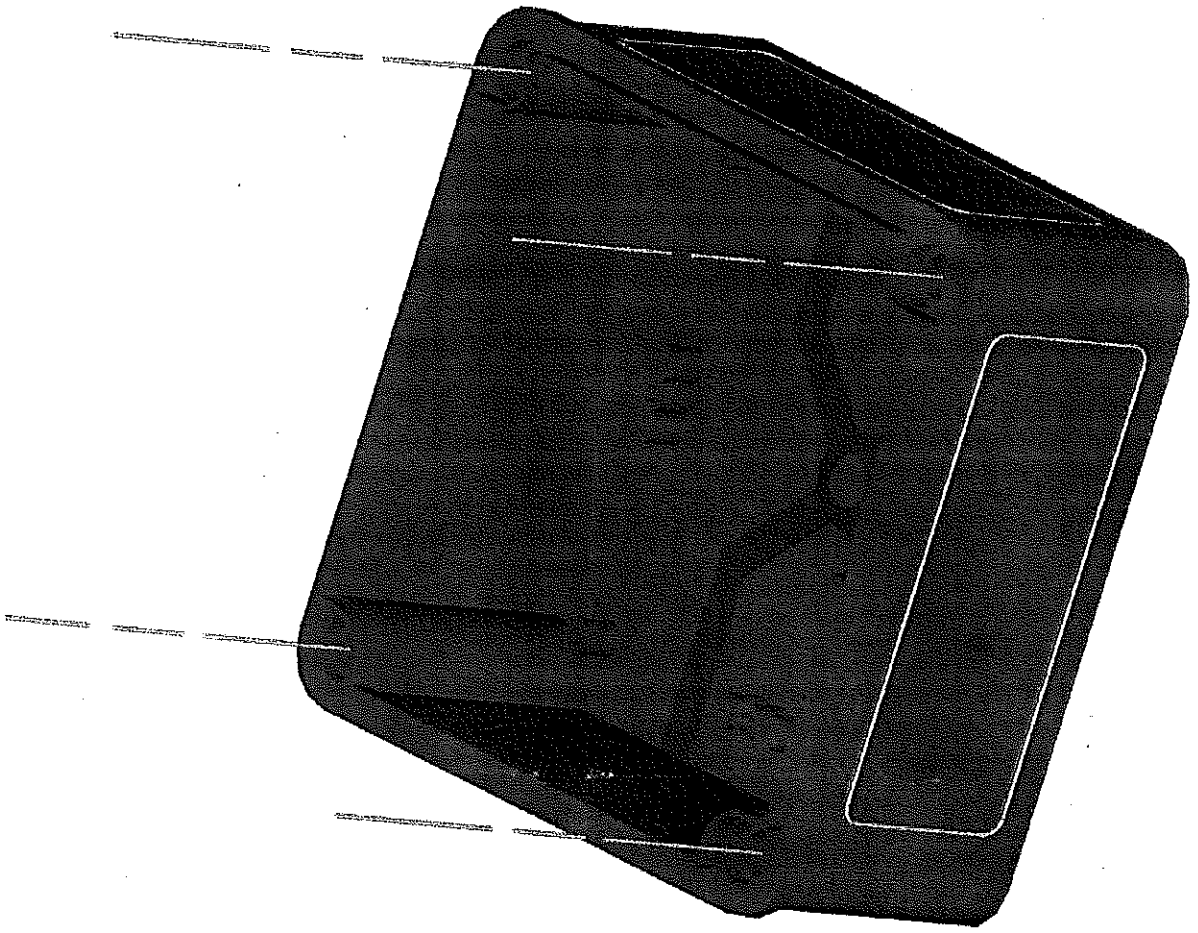


(H)TW155 Cooling



(H)TW255 Cooling





PROPER INSTALLATION REQUIRES MOUNTING SCREWS TO BE PLACED IN MOUNTING HOLES ONLY.

LIMITED WARRANTY

Products manufactured by TPI Corporation are warranted to the original consumer to be free from defects in material and workmanship for twelve (12) months from the original purchase date.

The TPI limited warranty does not cover products that have been modified outside of our factory, damage or failure caused by acts of God, abuse, misuse, connected to or placed on other than rated voltage, abnormal usage, fault, installation, failure to follow suggested maintenance procedures enclosed with the product, improper maintenance or any repairs other than those provided by an authorized TPI service center.

There are no obligations or liabilities on the part of the Corporation for consequential damages arising out of or in connection with the use or performance of the product or other indirect damages with respect to loss of property, revenues, profit, costs of removal installation, or reinstallation.

All implied warranties with respect to TPI products, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to twelve (12) months from original date of purchase, except those products or parts of products which are warranted for long periods thereon.

Some states do not allow the exclusions or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts. The above exclusions or limitations may not apply to you.

During the warranty period, TPI Corporation will, at its sole option, repair or replace any defective parts or products returned, freight prepaid, to the TPI Corporation factory or such other locations as TPI Corporation may designate. Returned products must be packaged carefully and TPI Corporation shall not be responsible for damage in transit.

When returning parts, the owner must provide the model number of the product and nature of difficulty being experienced. This warranty does not obligate TPI Corporation to bear the cost of labor in replacing any assembly, unit or component part thereof, nor does the company assume any liability for secondary charges, expenses for installing or removal, freight or damages. There will be charges rendered for product repairs made after the warranty period has expired. Proof of purchase, including date, must accompany request for in-warranty service. In any event, TPI Corporation's maximum liability shall not in any case exceed the list price for the product claimed to be defective. This warranty gives to you specific legal rights and you may have other rights, which may vary from state to state. For the name of your nearest authorized TPI Corporation service center, please write to TPI Corporation, P.O. Box 4973, Johnson City, TN 37602.

Heating Products Warranty Coverage	
Elements in Baseboards	10 Years
All Other Heating Products	1 Year
Thermostats and Controls	2 Years

Ventilation Products Warranty Coverage	
Series HD or HDH Fans	5 Years
Series UHP of IHP Fans	3 Years
All other Ventilation Products	1 Year

TPI Corporation
P.O. Box 4973
Johnson City, TN
37602-4973

Rev. 11/20/03
FORM: 9882

KT SERIES
LINE VOLTAGE THERMOSTAT

ELECTRICAL RATING

Heating

22 AMP-125/277 VAC Res.
3/4 HP @ 125 VAC; 1 1/2 HP@ 250/277 VAC
82.8 LRA @ 125 VAC; 60 LRA @ 250 VAC
13.8 FLA @ 125 VAC; 10 FLA @ 250 VAC

Cooling

3/4 HP @ 125 VAC; 1 1/2 HP @ 250/277 VAC
82.8 LRA @ 125 VAC; 60 LRA @ 250 VAC
13.8 FLA @ 125 VAC; 10 FLA @ 250 VAC

UL LISTED/CSA CERTIFIED

Temperature range -10° to 100° F
Differential: Approximately 3° F Heating or Cooling

FEATURES:

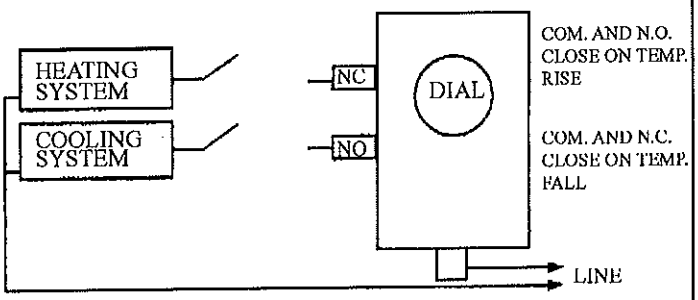
- A custom designed Thermostat for automatic control of Line Voltage Systems.
- The bimetal sensing element provides accurate control for Heat or Cooling Systems. Snap-Action dust proof contact assures closer temperature control and longer life without radio and television interference.
- This Thermostat is easy to install and is an approved surface mounted control.

INSTALLATION INSTRUCTIONS

Locate 4 - 5 feet above the floor where the thermostat will not be affected directly by heat from the heater, outside drafts or the sun. A location that best samples average temperature of the controlled space is best.

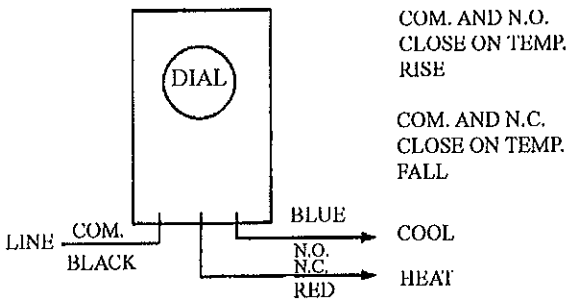
CAUTION: On rough mounting surface, use top two mounting holes only. When you mount this control on an uneven surface and pull all four mounting screws down tight, you can twist the case enough to affect thermostat calibration and operation.
All wiring should be done in accordance with applicable codes, ordinances and regulations.

FIG.1
MODELS KT-100, KTD-100, KTO-100



KT-100 S.P.S.T. HEAT ONLY, DOES NOT HAVE N.O. TERMINAL
KTD-100 S.P.D.T. (AS SHOWN) IS FOR HEAT OR COOL
KTO-100 S.P.S.T. COOL ONLY, DOES NOT HAVE N.C. TERMINAL

FIG. 2
MODELS KT-110, KTD-110, KTO-110



KT-110 S.P.S.T. HEAT ONLY, DOES NOT HAVE N.O. WIRE CONNECTION
KTD-110 S.P.D.T. (AS SHOWN) IS FOR HEAT OR COOL
KTO-110 S.P.S.T. COOL ONLY, DOES NOT HAVE N.C. WIRE CONNECTION

L__Y-01 SERIES

TPI CORPORATION
PO BOX 4973
JOHNSON CITY, TN 37602

INSTALLATION INSTRUCTIONS

APPLICATION

The L series are designed for use as operating or regulating controls only. Where control failure could result in personal injury or the loss of property, an approved backup temperature limit control or an advisory alarm system should be used to warn of control failure.

Model	Description	Operation
L__Y-01	Heat or Cool SPDT	Opens N.C. circuit on temp. rise/closes N.O. circuit on temp rise.

Electrical Ratings
25 AMP @ 125/240/480 Vac
3/4 HP @ 125 Vac
1 1/2 HP @ 240 Vac

CAUTION

Installation must be performed by an experienced, qualified service person.
Always disconnect power supply before performing any work.
Wire nut or otherwise insulate any unused conductors.
All wiring must conform to state and local codes.

Safety Information

1. Disconnect all power before installing or servicing.
2. Be certain that the electrical load that is to be controled does not exceed the thermostat rating.
3. This thermostat is intended for permanent installation and must be installed in accordance with the National Elecric Code (NEC) and all state and local codes.
4. Use copper conductors only.

Installation

1. Locate the thermostat sensing bulb 4 to 6 FT. above the floor, where it will be exposed to an average temperature of the controlled space. Do not mount near windows, doors or direct sunlight.
2. Remove the thermostat cover. Position the box with the wiring hole oriented as desired. Fasten the box to the wall with 2-3 screws through the mounting holes.
3. The thermostat may be installed using conduit, flexible cable or other code approved wiring methods. All fittings and materials used should be approved for the application and should be installed in accordance with instructions.
4. Complete the wiring by attaching the thermostat leads in accordance to the applicable wiring diagram using wire nuts (not provided). A green groung wire is provided to attach the line and equipment groung to the thermostat. After the connections are made, all wires should be pushed back into the box.
5. The thermostat cover should now be attached to the box using the screw provided.

Operation

After installation and wiring, check the operation in the following manner:

1. Adjust the thermostat set point to about 10 degrees below room temperature.
2. Restore power.
3. Slowly raise the set point of the thermostat. When the set point reaches room temperature, the heater should come on.

Since the thermostat may be afffected by the installers hand, allow the necessary amount of time after handling before performing operation check.

The L Series thermostats are factory calibrated and require no field adjustments. Changing the calibration will void the warranty. Do not bend or damage the sensing bulb as this will afffect operation of the unit.